



Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

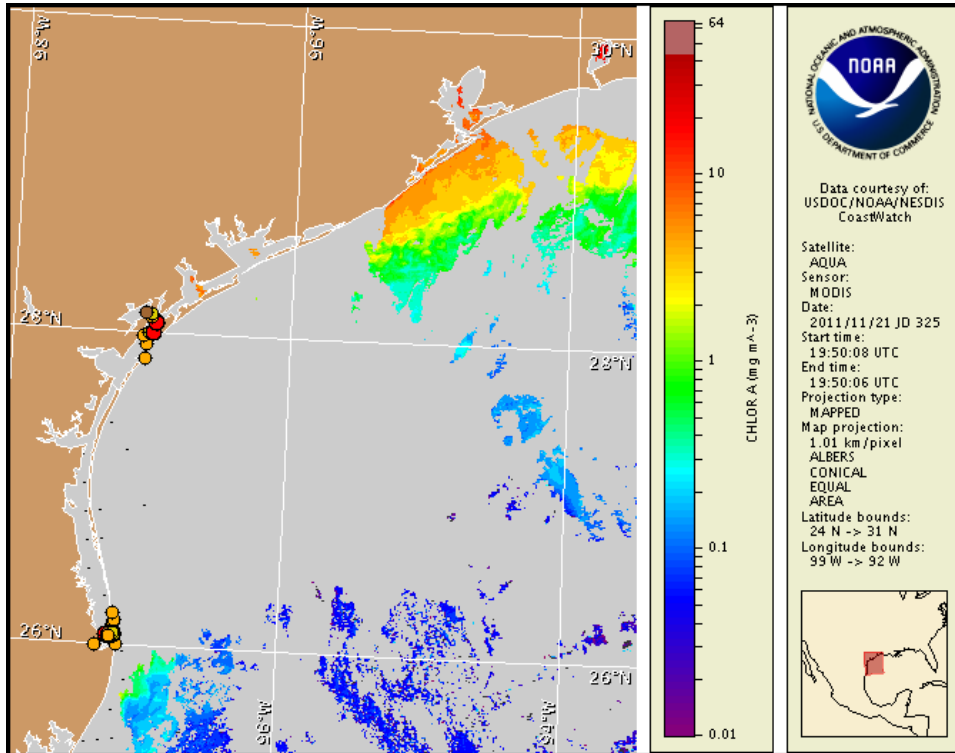
Wednesday, 23 November 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Monday, November 21, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from November 13 to 23 shown as red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfbs_bulletin_guide.pdf

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive:
<http://tidesandcurrents.noaa.gov/hab/bulletins.html>

Conditions Report

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, and within the lower Laguna Madre and Brownsville Ship Channel area. Patchy high impacts are expected today through Sunday within the lower Laguna Madre, today through Saturday in the Port Aransas/Corpus Christi region, Friday and Saturday along South Padre Island, and Saturday and Sunday within the Brownsville Ship Channel area. Patchy moderate impacts are possible today through Friday in the Galveston/Freeport area, Wednesday and Thursday along South Padre Island, and Wednesday through Friday within the Brownsville Ship Channel area. Patchy low impacts are possible in the Port Aransas/Corpus Christi region on Sunday, with patchy very low impacts possible in the Galveston/Freeport area Saturday and Sunday, and along South Padre Island on Sunday. No additional impacts are expected at the coast in Texas today through Sunday, November 27. Respiratory irritation has been reported along Padre and South Padre Islands. Dead fish have been reported along South Padre Island, at Boca Chica Beach, and within the lower Laguna Madre, and discolored water has been reported from the Galveston Bay region. All Texas bays and coastal waters remain closed to commercial and recreational oyster harvesting due to blooms of the harmful algae *Karenia brevis* (red tide).

Analysis

****Due to the upcoming federal holiday, the next bulletin will be issued on Monday, November 28.****

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, and within the lower Laguna Madre and Brownsville Ship Channel area.

No new samples have been received from the Galveston or Matagorda Bay regions. The latest samples indicated 'low a' to 'low b' *Karenia brevis* concentrations in northwest Galveston Bay (11/17; TPWD), and 'low b' to 'high' concentrations within Matagorda Bay (11/1-7; TPWD). In the Galveston area, patches of discolored water have been reported in East Bay and near the Texas City dike (11/22; TPWD).

In the Aransas/Corpus Christi Bay region, four samples collected at the UTMSI pier indicate 'medium' *K. brevis* concentrations near the coast within Aransas Pass (11/21-23; TPWD). No other new samples have been received from the Aransas/Corpus Christi Bay region where 'low a' to 'high' *K. brevis* concentrations were reported throughout Aransas Bay early last week (11/14; TPWD).

No new samples have been received from the Padre Island National Seashore where 'low b' and 'medium' concentrations were last identified on 11/7 (TPWD). Respiratory irritation has been reported along Padre Island from the Bob Hall Pier to Malaquite Beach (11/23; TPWD).

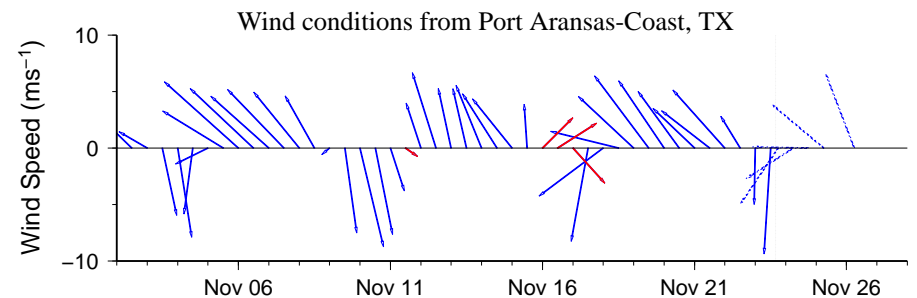
Two 'medium' samples collected alongshore South Padre Island at Beach Access 5 and 6 indicate that *K. brevis* concentrations remain between 'low b' and 'medium' along South Padre Island from Beach Access 6 to Boca Chica Beach at Highway 4 (11/14-22; TPWD). Within the lower Laguna Madre one new sample from Canal C near Port Isabel indicates that *K. brevis* concentrations have returned to 'medium' from 'low a' concentrations reported on Monday (11/21-22; TPWD). No other samples have been received from within Brazos Santiago Pass, the lower Laguna Madre, or the Brownsville Ship Channel. The most recent samples received indicated 'low a' to 'medium' concentrations within Brazos Santiago Pass (11/14-21; TPWD), 'low a' to 'high' concentrations within the lower Laguna Madre (11/14-22; TPWD), and 'medium' concentrations within the Brownsville Ship Channel at the San Martin boat ramp (11/14-15; TPWD). Respiratory irritation has been reported around South Padre Island and dead fish have been reported within the lower Laguna Madre from Port Mansfield and Port Isabel, around Beach Access 5, and at Boca Chica Beach (11-21-22; TPWD).

Imagery along the Texas coastline continues to be obscured by clouds, limiting analysis. In MODIS imagery from 11/21 (shown page 1), elevated chlorophyll ($2 < 10 \mu\text{g/L}$) is visible stretching along- and offshore Galveston Island from Bolivar Pass to the Freeport area. Further analysis along the Texas coastline is not possible at this time. As of late last week (MODIS 11/18-19), elevated chlorophyll ($2-6 \mu\text{g/L}$) was visible stretching along- and offshore from Port Aransas to the Rio Grande and in patches from Sabine Pass to Port Aransas. Elevated chlorophyll at the coast may contain *K. brevis* but could also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of blooms from satellite imagery alone.

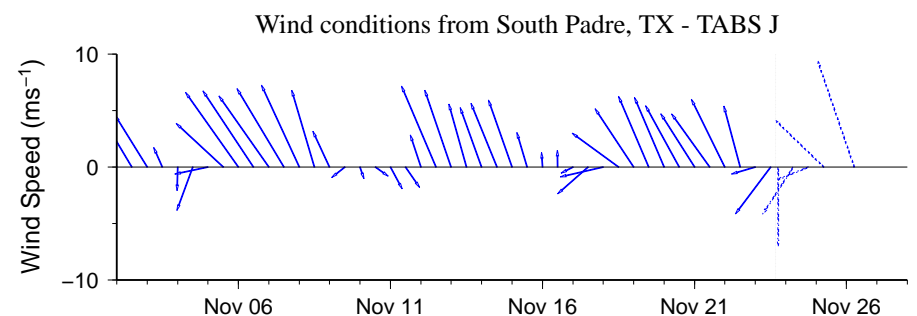
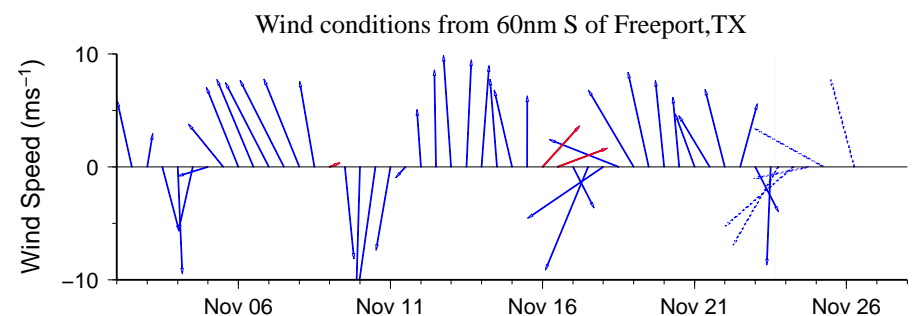
Forecast models based on predicted near-surface currents indicate a maximum bloom transport from coastal sample locations of 70km south from the Galveston Bay region, 50km south from the Matagorda Peninsula region, 30km south from Port Aransas, 20km south along the Padre Island National Seashore region, and $<10\text{km}$ north from Brazos Santiago Pass from November 21-26. Onshore winds over the next few days will increase the potential for impacts along the Texas coastline.

Derner, Kavanaugh

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Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).

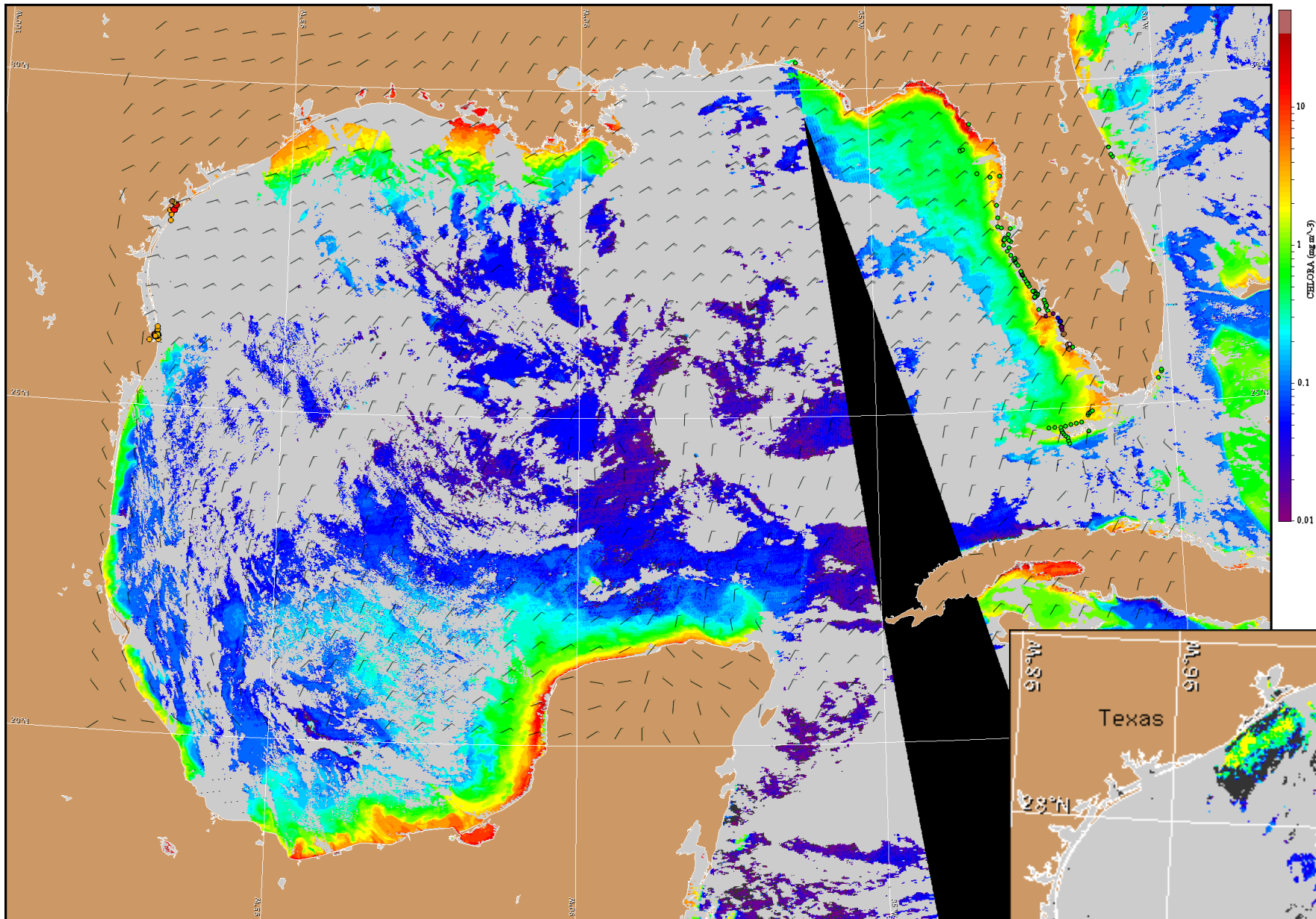


Wind Analysis

Galveston/Freeport: North winds (15kn, 8m/s) today becoming northeast (10-15kn, 5-8m/s) this afternoon through tonight. East winds (10-15kn) Thursday becoming southeast (10-20kn, 5-10m/s) Thursday night through Friday. Southwest winds (15-20kn, 8-10m/s) Saturday becoming northwest (20-30kn, 10-15m/s) Saturday afternoon. North winds (20-30kn) Saturday night through Sunday becoming northwest (20-25kn, 10-13m/s) Sunday afternoon through Sunday night.

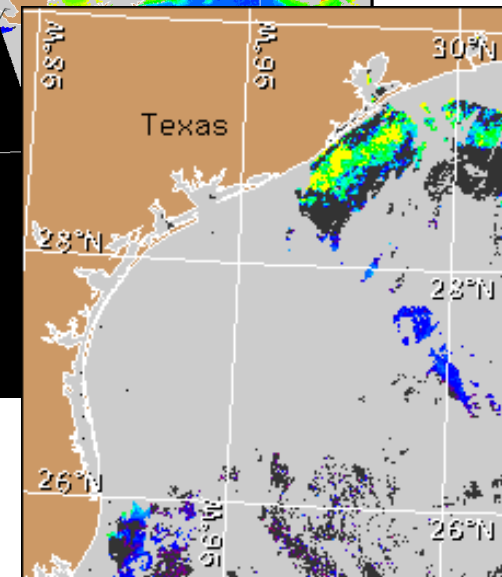
Port Aransas: Northeast winds (5-20kn, 3-10m/s) today. East winds (5-10kn, 3-5m/s) Thursday becoming southeast (10-20kn) Thursday night through Friday. Southwest winds (15kn) Saturday shifting northwest (25-30kn, 13-15m/s) in the afternoon. North winds (30-35kn, 15-18m/s) Saturday night. Northwest winds (15-30kn, 8-15m/s) Sunday.

South Padre: Northeast winds (15kn) today. East winds (10kn, 5m/s) Thursday becoming southeast (15kn) Thursday night. South winds (20kn, 10m/s) Friday. North winds (30-35kn) Saturday. Northwest winds (20-25kn) Sunday.



Satellite chlorophyll image and forecast winds for November 24, 2011 12Z with cell concentration sampling data from November 13 to 23 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).